

# EXHIBIT 443



**How to Address the Gray Market Threat Using Price Coordination**

Assmus, Gert; Wiese, Carsten

*Sloan Management Review*; Spring 1995; 36, 3; ABI/INFORM Global

pg. 31

# How to Address the Gray Market Threat Using Price Coordination

Gert Assmus • Carsten Wiese

**G**RAY MARKET GOODS ARE BRAND NAME PRODUCTS SOLD THROUGH UNAUTHORIZED CHANNELS. GRAY MARKETS HAVE RECENTLY BECOME MORE THREATENING to multinational companies as a result of the increasing number of global products available and easily accessible price information about them. The authors present a framework to select the right approach to the gray market threat by coordinating price-setting decisions based on the subsidiary's local resources and the complexity of the product's market. Through examples from their sample of companies that have dealt with gray markets, they show how price coordination methods have been implemented. §

*Gert Assmus is professor of business administration, The Amos Tuck School, Dartmouth College. Carsten Wiese is market research manager, Hoechst AG, Germany.*

**A** U.S.-based company sells prestigious high-priced liquor under the same established brand name in almost every country around the world. Recently, the director of global marketing at corporate headquarters received strong complaints from the head of the company's subsidiary in Japan about the substantial quantities of the product that had entered Japan through the gray market. The gray market products are sold at a considerable discount, thus cannibalizing product sales through authorized channels and threatening the high-prestige image of the product in Japan.

The homogenization of customer demand around the world, the lowering of trade barriers, and the emergence of international competitors all contribute to the pressure on companies to market truly global products, that is, products that are almost identical everywhere and backed by global advertising strategies. Examples are such products as Coke and Pepsi-Cola, Levi's jeans, Swatch watches, Nikon and Minolta 35mm cameras, Sony car stereos, Honda Civic or BMW 320i cars, Caterpillar tractors, and Vizio, a liquid detergent from P&G Europe.

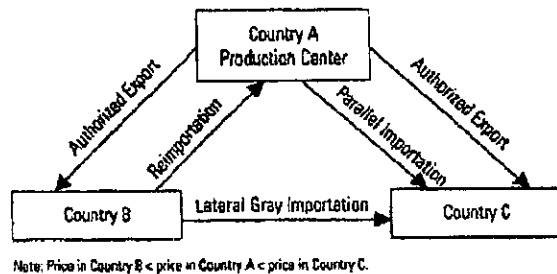
At the same time, these largely undifferentiated global products are sold at different prices in different countries, based on such factors as purchasing power, exchange rate changes, and competition. Because of readily available, inexpensive information on worldwide prices made possible

by modern data transfer and telecommunications systems and low transaction costs, such global products are often threatened by gray markets that cannibalize sales in countries with relatively higher prices and damage relationships with authorized distributors, as the opening example illustrates.

In this paper, we discuss how multinationals are addressing the gray market threat through various price coordination methods. These companies control the threat without resorting to drastic measures, such as differentiating the products for each country or revamping the distribution channels. Even though the coordination mechanisms are likely to incur a cost, they are often preferable to other measures because they allow companies to benefit from product standardization and a unified positioning strategy for their global products.

Research on pricing issues is underrepresented in the international marketing literature. In their research, Aulakh and Kotabe suggest that the reason for the neglect of this important issue is "the inherent difficulty in getting information from international companies due to the sensitive nature of such information."<sup>1</sup> We have based this paper on a review of the literature and several interviews with managers active in global pricing decisions. We first examine the circumstances that have increased the threat of gray markets to multinational companies

Figure 1 Gray Markets



during the past few years. We then describe how multinational companies coordinate their prices in different countries and thus control the gray markets for their products. Finally, we summarize the costs, risks, and benefits of each approach and suggest a framework for determining the appropriate method.

### What Are Gray Markets?

Bucklin defines gray market goods as "genuinely branded merchandise distinguished only by their sale through channels unauthorized by the trademark owner."<sup>1</sup> According to Cross, Stephans, and Benjamin, "The goods appear to be, and in most cases are, physically identical in every way, including their trademarks. Therefore, price is the major difference."<sup>2</sup> Gray markets are the result of arbitrage in which companies buy a product in the market and sell it in other markets, benefiting from the prevailing price differential.

Gray market goods typically are international products with a unique brand name, high international price differences, and low costs of arbitrage. The costs connected with the arbitrage of goods from one country to the other are transportation costs, tariffs, taxes, and costs for modifying products, such as changing the usage instructions for pharmaceutical products.

There are three types of gray markets (see Figure 1):

1. **Parallel Importation.** If a product is priced lower in the home market than in the foreign market, and if the cost of arbitrage is less than the price difference, a gray marketer can take advantage of the price difference by parallel importing from the country of production to the export market. Our introduction gave one example of parallel importation; others are the importation of Levi's jeans from the United States to Germany, BMW and Mercedes automobiles from Germany to Japan, and champagne from France to the United States.
2. **Reimportation.** If a product in the foreign market is

cheaper than in the home market, and if the cost of arbitrage is less than the price difference, then reimportation is profitable for a gray marketer. Examples include Volkswagen, BMW, and Mercedes automobiles that are reimported from Denmark or Italy to Germany, Bayer pharmaceutical products reimported from Portugal to Germany, and Minolta cameras reimported from the United States to Japan.

3. **Lateral Importation.** If there are price differences between two countries, and the product is not produced in either one, the product from one country is sold to the other through unauthorized channels. Examples are the 35mm cameras of any Japanese manufacturer imported from Hong Kong to Europe, and Kodak film, made in the United States, from Taiwan to Germany.

In all three cases, gray marketers profit from trading products through channels that the manufacturer has not authorized. Some large retailers (for example, Kmart in the United States) stock their stores with items purchased in gray markets and not from authorized distributors or directly from the manufacturer.<sup>4</sup>

### How Do Gray Markets Grow?

The main reasons why gray markets have become so threatening to many multinational companies are the increasing number of global products and the decreasing cost of price information in different countries. Gray markets spring up when information on prices for basically the same product in different countries is easy and cheap to get. We interviewed a gray marketer in Europe who creates markets in many product categories (mainly pharmaceuticals and medical equipment) whenever price differentials between countries are large enough to support profitable operations. The basis of this gray marketer's success is a large database of price lists in each relevant market for every product category where the company is active. Product specifications for every available category are backed up on CD-ROM so that customers' price and quantity requests can be answered instantly. The database is updated every week by business partners in each country. Currently, the new price lists are sent to the information collection center via fax. In the future, updates will be made to the central computer via modem.

Direct consumer access to such a database is the next logical step. In France, for example, the "Minitel system" for tapping into several data banks such as flight schedules and telephone numbers is accessible from almost

any private and public telephone. In the future, every consumer with a computer may have access to the prices of any number of product categories anywhere in the world, and will be able to buy directly from the least expensive source. A human intermediary will not be needed for the creation of gray markets.

Changes in exchange rates that cause products to become more expensive in one country than in another also create gray markets. The U.S. gray market expanded because of the high dollar exchange rate in the early 1980s. In 1986, the volume of the U.S. gray market was estimated at \$7 billion per year with an annual growth rate of 20 percent.<sup>1</sup> After a substantial devaluation of the dollar versus other major currencies in the late eighties, the United States has become relatively "inexpensive" and is currently a source country for gray markets.

Gray markets also exist without any exchange rate fluctuations, simply because the price in each country is a reflection of local price elasticity. This explains their existence in European Common Market countries where exchange rates have not varied substantially for quite some time. In this case, agreements have furthered access to products in all European countries. For example, a European Commission regulation mandates that auto manufacturers have to deliver a car to every citizen in any country of the European Union. Also, each subsidiary of an automaker is required to back its warranty in every country regardless of where the car is purchased. This free access to products in the European community has not led to the harmonization of prices, which varied as much as 40 percent in 1991.<sup>6</sup> Some car dealers in Europe — especially in Germany — specialize in offering "Euro-cars," their name for gray imports from other European countries. The car buyer can order a car from a catalog for delivery in about three weeks. The buyer's average savings are around 12 percent to 20 percent of the German authorized dealer prices.

### Reactions to Gray Markets

Generally, a certain level of gray market activity or "leakage" is acceptable if it leads to incremental profits without damaging relationships with the trade or customers' perception of the product in the high-priced segment. Beyond a certain level, however, all gray market activities impair the company's long-term profitability.

If the gray goods serve an additional market segment that would not buy the product at the higher price, gray markets can result in higher profits for the company, even if the supply of gray goods cannibalizes some demand in the high-priced countries. However, the company must

consider a number of factors. First, it must weigh the benefits of the incremental sales to the lower-priced segments against the losses, attributable to cannibalization, in the higher-priced segments.<sup>7</sup> Then the company must consider the authorized distributors' reactions to losing sales to the gray market. If their business is harmed, the manufacturer's relationship with them could become more difficult. Finally, the company must consider the impact

Gray markets spring up when information on prices for basically the same product in different countries is easy and cheap to get.

of the gray market imports on the product's and trademark's image in the higher-priced countries.

If a company determines that the gray market activities are not acceptable, it may react with the following measures: (1) legal protection or government intervention; (2) restrictions of and threats to the retailers, perhaps with a warning that franchise rights will be forfeited; (3) fewer warranties for products bought on the gray market; and (4) acquisition of the gray marketer.<sup>8</sup>

Typically, companies call for government intervention, demanding sanctions against unauthorized product flows across national borders. In the European Union, however, articles 85 and 86 of the Roman Treaty forbid limitations of free trade between and among member states. EU Commission and EU Court rulings have quashed companies' attempts to single out specific country markets and treat them differently from others. These rulings have established the legality of all kinds of gray imports. For example, the British company Parker Pen Ltd. paid a penalty of 700,000 ECU when it tried to keep its German partner, Herlitz AG, from exporting Parker pens from Germany to other European countries.<sup>9</sup> (All these decisions by the European Court of Justice are listed regularly in the *Reports on Competition Policy* published by the European Commission.)

In the United States, there is a long history of decisions on gray markets. A 1988 Supreme Court decision distinguishes three situations.<sup>10</sup>

1. Unrelated Purchase. If a U.S. company buys a trademark from a foreign manufacturer in good faith and wants to distribute the product in the United States under the foreign manufacturer's trademark, the parallel importation of gray goods by a third party is illegal.

2. **Affiliated Firms.** Gray markets are permitted if there is an affiliation between a domestic and foreign company, as this leads to "common control" over the trademark.
3. **Authorized Use.** If a U.S. company has authorized a foreign manufacturer to produce under its trademark, gray market imports are not allowed because the use of the trademark to support parallel imported goods to the United States is not authorized.

In practice, there are only a few instances where gray markets can be legally restrained. In some way, all connections between manufacturer and foreign distributors are affiliations, leading to common control over the trademark, thereby condoning gray markets.

Instead of reacting to gray markets after they have occurred, a well-managed multinational company should proactively prevent or at least restrict gray market activities *before* they occur. The company could differentiate products by changing the physical attributes of the product for sale in other countries, or vertically integrate, possibly all the way to the retail level. But these draconian measures are often associated with high costs. An alternative is restructuring pricing decisions to coordinate international prices of the global product. Coordination does not imply the same prices in all countries; the prices in individual countries still reflect the respective price elasticities as well as transaction costs.

### Coordination of Pricing Decisions

The economics literature suggests that pricing decisions can be coordinated by controlling the inputs to those decisions. The organizational behavior literature distinguishes between formal and informal ways to coordinate.<sup>11</sup> *Formal* methods include centralizing and formalizing decision processes. Centralization refers to the hierarchical level at which the decision authority is located. Formalization refers to the extent to which the subsidiaries making decisions at the local level have to follow headquarters' policies. Ways to *informally* coordinate include implementing a corporate culture, establishing additional communication flows, and designing alternative reward systems.

Accordingly, a multinational company has four basic options in dealing more effectively with the increased interdependence of its prices in different countries. These options are not mutually exclusive. Although a company can choose one or the other, it can also pursue a combination:

1. **Economic Measures.** The company can influence the country manager's pricing decisions by controlling the input to those decisions.

2. **Centralization.** The company can move toward more centralization in setting prices.

3. **Formalization.** The company can standardize the process of planning and implementing pricing decisions.

4. **Informal Coordination.** The company can institute various informal coordination methods.

### Economic Measures

A multinational's headquarters can shape pricing decisions at the country or regional level by transfer pricing, rationing, and specifying a price range. If local or regional pricing decisions are creating undesirable gray markets, they can be influenced by changes in the transfer price that the central organization charges the subsidiary for the product. When one multinational company in our sample discovered that large quantities of a product ended up in a high-priced country after it had sold it to a subsidiary in a low-priced country, the company imposed "a tax" on the product when it was sold to the low-priced country. That is, it raised its transfer price. Imposing a tax raises the marginal costs to the subsidiary, which now will raise the price in order to maximize the profit, thus reducing the price differential and making arbitrage less attractive. If a local distributor knowingly sells the product through unauthorized channels, a tax can also be seen as a "fine," which penalizes the subsidiary's behavior while reducing its profit. Such a tax can act as a powerful deterrent.

A company's ability to set transfer prices is, of course, often limited by country tax codes. The U.S. Treasury, for example, has indicated that it will penalize multinational companies that evade taxes by manipulating transfer prices so profits appear in countries where tax rates are relatively low. Even though gray market activities may motivate the changes in the transfer prices, their tax implications have to be weighed as well.

Closely related to transfer pricing is rationing the product quantities that are allocated to each country or region. If headquarters knows roughly how many units are directed to other countries, it can limit, or even forestall, gray market activities by rationing the number of units sold in the diverting country. Faced with a limited quantity, the local manager is likely to raise the local price, and the price difference will decrease. Consequently, gray market activity will no longer be as attractive.

Effective use of transfer pricing and rationing assumes that headquarters has reliable information on market conditions in the countries involved in the gray market activities. But, perhaps even more important, effective application of these methods requires that the central office controls the product. This is more likely to be possible



today than, say, ten years ago when local production facilities manufactured the product to the country's specification. With the spread of globalized products, more multinationals have taken advantage of scale economies by centralizing production in one country and supplying other countries from there.

A change in transfer prices and rationing causes country managers to adjust their prices so that price differences between countries become smaller. In the example above, the company influenced the pricing decision in the low-priced country by imposing a "tax." An alternative approach for the company is to lower the transfer price in the higher-priced country where the gray goods ended up. As a rule, it is more desirable for the corporation to reduce price differentials by inducing the subsidiary in the low-priced country to increase its price than to get the subsidiary in the high-priced country to lower its price, especially if the low-priced market is relatively small and unimportant. Lowering prices in some countries could result in an erosion of the price level

---

**A** change in transfer prices and rationing causes country managers to adjust their prices so that price differences between countries become smaller.

---

throughout the region, wiping out attractive distribution margins. This would be especially damaging if the high-priced country were also relatively large.

At the extreme, headquarters could decide to stop marketing its product altogether in a low-priced country, either by raising its transfer price so that it becomes unprofitable for the distributor in that country to carry it any longer, or simply by limiting its supply to zero. Several multinational companies have taken this approach in Europe. They have stopped marketing their product to relatively small low-priced countries (such as Greece), because the product would find its way through gray markets to high-volume, high-priced countries (such as Germany).

Kucher developed a price range model that allows a company to define a price range for each country.<sup>12</sup> Within this range, the country manager can set prices according to local conditions. Kucher's model has been applied successfully to several products, among them pharmaceuticals in European markets. In the case of two countries,

optimal prices are computed separately for each country on the basis of country-specific price response functions. Then a profit function is generated jointly for both markets, with profit expressed as a function of arbitrage costs between the two countries. The specific variable used is arbitrage costs as a percentage of the higher of the two optimal prices. If this percentage rate is very high — that is, if the arbitrage costs are relatively high — the optimal prices will be the same as those resulting from totally autonomous price setting.

#### Centralization

Many multinational companies have given country managers a high degree of decision-making autonomy, often a result of the company's historical growth. Empirical studies indicate that pricing decisions are one of the most highly decentralized marketing decisions. In a study of parent and intersubsidiary relations in a sample of 75 major multinational companies with 372 subsidiaries, Govindarajan and Gupta found pricing to be one of the three most decentralized decision areas.<sup>13</sup>

There are two reasons for this decentralized approach: (1) country managers usually can best assess customer and competitor reactions to pricing decisions in their countries; and (2) country-level decisions enhance the company's ability to react swiftly to changes in the competition and customer preferences.

The prices resulting from a decentralized approach, however, are optimal for the company as a whole only if the pricing decision in one country does not affect sales and/or profitability in another country. Country managers who act independently maximize profits by setting optimal prices for their country. If prices in one country are set significantly higher than they are in another, gray markets are likely to emerge, generating additional sales in the low-price country that reduce sales in the high-price country. Because markets in individual countries usually cannot be insulated effectively from one another, highly decentralized pricing decisions can be considered the cause of gray markets that create poor results for the corporation as a whole.

If the gray markets are directly attributable to decentralized price setting in every country, a centralized approach in which corporate headquarters tells country managers to price a product at a prescribed level seems appropriate. In our introduction, the country manager for a U.S. liquor company in Japan complained about gray market imports of a high-prestige brand that were not only siphoning off sales but also undermining the brand's positioning strategy in Japan. These imports were traced to the United States where they had been sold to a distributor at a

highly competitive price. The distributor, in turn, had sold some of the products to an entrepreneur who realized that he could profit by parallel importing, that is, by shipping the liquor to Japan and selling it there on the gray market.

Centralized pricing decisions can prevent this type of situation. The company could have told the country manager in Japan to lower prices so that there would be no more incentive for gray market activities. Or, alternatively, the company could have instructed the person in charge of U.S. sales not to sell the liquor to any distributor in the United States at prices below a certain level.

---

**T**he infusion of corporate values has to be backed with an incentive system that rewards country managers for working toward corporate goals.

---

Some drawbacks of fully centralized decision making become evident in this example. First, there is a lack of good information about local conditions at the central headquarters. Also, centralized price setting may keep the local subsidiaries from acting quickly to remain competitive. Most important, however, is the "not invented here" syndrome. Country managers in Japan and the United States may resent headquarters telling them what prices to charge in *their* countries, particularly if they previously had the authority to set prices or if their rewards were based on bottom-line results. In the country manager's mind, prices were optimal before headquarters' interference. If sales do not meet expectations, local managers can easily blame the shortfall on a presumably "incorrect" price mandated by the central administration. In a survey by Beutelmeyer and Mühlbacher, a highly centralized and standardized pricing policy was associated with a high level of dissatisfaction among local managers.<sup>14</sup>

Many multinational companies have moved toward more centralization by shifting decision-making authority from the country to the regional level.<sup>15</sup> Regionalization is a compromise between the traditional strategies of relatively autonomous subsidiaries and complete centralization. Regionalization can also be a stepping stone toward a more global strategy. For many companies, the world is not an undifferentiated marketplace, yet certain regions are similar enough that the multinational can apply similar pricing policies to all countries within that region. As a rule, these regions coincide with trading blocks. In

1989, twenty-one of the twenty-two richest industrialized nations in the world belonged to regional trading groups (the exception is Japan).<sup>16</sup>

If a company has given its local subsidiaries considerable decision autonomy in the past, the change toward regionalization has to be managed skillfully. Morrison, Ricks, and Roth report that, in several companies, such a change produced low morale and a damaging "us versus them" attitude.<sup>17</sup> A successful change to regionalization requires informal coordination through committees, personal contact, and task forces.

While regionalization is an effective way to address problems of gray markets across countries of the region, there remains the problem of worldwide coordination. Gray markets can still operate between regions, such as between the Asian countries and the United States. Thus corporate headquarters needs to monitor the price developments in each region and, if necessary, coordinate prices between regions. A regionalized structure may make price coordination easier than if gray markets emerge between individual countries, simply because there are fewer prices and players to worry about.

#### Formalization

Another way multinational companies can influence prices at the local level is to prescribe a process for the country managers setting prices. For example, at one large multinational company, which is battling an equally large global competitor, pricing decisions were made independently at the local level, and each country manager had a particular strategy for meeting the competition. Now the company has established specific decision rules that the country managers have to follow. The rules relate its product's price to the competing product considered the price leader. Another multinational company told its country managers to price a specific product at par with a major competitor's. A manager who wants to deviate from the strategy must get approval from the regional manager.

When a company orders its country managers to relate prices to the competitor's, it does not address the gray market threat directly. On the other hand, if the competing company controls its gray markets by coordinating prices between countries, then relating to these prices should help the company that is piggybacking control its gray market activities.

In a more direct approach, country managers could relate their prices to the prices for the same product in other countries. This process requires the identification of "lead" countries — the most important countries in terms of profits and sales — where the country man-

agers have chosen the prices they consider optimal. For the "nonlead" countries, on the other hand, headquarters could instruct the country managers to set their prices at a level that prevents gray market profitability. A manager of a worldwide producer of food-packaging machines told us that instructions from headquarters to the nonlead countries resulted in a local management that was frustrated and demotivated. To keep formalization successful, it has to be complemented with informal ways of coordinating.

#### Informal Coordination

Empirical research has shown that multinational companies increasingly rely on informal coordination methods. Some companies have moved toward more coordination without a higher degree of centralization or more formalized planning processes.<sup>18</sup> De Meyer shows how multinational companies stimulate and coordinate R&D activities by establishing organized communication flows between country units.<sup>19</sup> Quelch and Hoff describe how global companies influence local marketing decisions not just by directing and approving, but also by persuading and informing.<sup>20</sup> Raffee and Kreutzer discuss various informal coordination tactics useful in global marketing, such as establishment of discussion groups and coordination groups, following a lead-country concept, and instituting global product responsibility.<sup>21</sup> Bolz, in a survey of multinationals in Germany, France, Italy, and Great Britain, found discussion groups in 81.3 percent of the companies, global coordination groups in 66.3 percent, and the lead-country concept in 44.9 percent.<sup>22</sup> Poynter and White claim worldwide advantages with introduction of a horizontal organization.<sup>23</sup> Barden and Ghoshal extend the categories of international, multinational, and global companies to describe the "transnational company" — a dispersed, interdependent, and specialized configuration of assets and capabilities, where international subsidiaries make differentiated, innovative contributions to integrated worldwide operations.<sup>24</sup>

What do informal coordination approaches have in common, and how can they be used to control worldwide or regional gray markets? First, they assume common business values backed by compatible incentive systems. For example, all managers in a multinational company must agree that they have to work together for the company to achieve a worldwide advantage, and they will be rewarded if they do. Thus a country manager would not set a low price for a product if it would cause the growth of gray market activities and subsequent price erosion in other countries. The decision is based on

overall corporate goals, even though the low price might result in the best profits or be necessary for that country to remain competitive.

Sharing corporate values usually results from a broad-based process within the company. The CEO's leadership and thoughtful human resource management is important. As a rule, every manager with local decision-making authority should have worked at corporate or regional headquarters before taking a local assignment. Giving local managers regional or global tasks, such as the introduction of a new product into several countries, can also encourage shared values.

The infusion of corporate values has to be backed with an incentive system that rewards country managers for working toward corporate goals. A multinational should evaluate and reward country and regional managers based on measures of outcome as well as behavior. The more the multinational company relies on collaborative efforts among country units, the more difficult it is to define outcome measures, such as sales and profit, for which the country manager is solely responsible. Thus rewards depend more on the country manager's decisions and actions.

What may appear the result of corporate indoctrination is often really a reflection of a country manager's fear of sanction if he or she fails to pursue the global corporate interest. The president of a large international company, for example, stated that regional managers had the freedom to ignore his "advice" with respect to prices for the product in their regions. Yet he also said that "life could become quite difficult for them" if they did.

A country manager is also subject to peer pressure to cooperate. Companies that have successfully implemented informal coordination often use rotated regional or global task assignments. Thus a particular country manager may have to recommend prices in all countries within a region to limit gray markets. Even if country managers in that region do not agree with the proposed pricing policies for their country, they know that they will have responsibility for a regional project in the future and will need everyone's cooperation. Because of this mutual dependency, they are willing to go along with the proposed pricing policy.

Another feature of informal coordination is an emphasis on horizontal information flows, which allow country managers to learn about gray markets in other countries. If country managers first discuss prices, they can assess their impact on sales in one country on sales and profitability in another. Country managers in two adjoining countries may also decide to coordinate price promotions.



## A Framework for Selecting Coordination Methods

In a proactive approach to coordinating its pricing decisions for global products, a multinational company has to select an appropriate method and plan its implementation. Here we provide a framework to help select a coordination method (see Figure 2). Based on research in the organizational behavior and management control literature, we have found two factors that influence the choice of method, the level of local resources and the level of environmental complexity.<sup>15</sup>

Centralization and the application of economic measures are both based on the assumption that corporate headquarters is especially well informed about each country's market conditions. This is more likely if the target markets in all countries are similarly defined, the company applies a global marketing strategy, and the product and other elements of the marketing mix, such as advertising and distribution, are highly standardized. That is, if the level of "environmental complexity" with respect to the pricing decision is relatively low.

Economic measures are preferred to centralization if the local subsidiary commands a relatively high level of resources that give it relative power with regard to headquarters. This often occurs when important subsidiaries have long been governed by strong country managers. If gray markets emerge, headquarters should leave the pricing authority at the local level and coordinate prices through transfer pricing, rationing, or prescribing a price range. Decentralization makes the country manager feel committed to the pricing decision and put extra effort into its implementation.

Informal coordination methods and formalized pricing procedures are appropriate for multinational companies whose marketing strategy and mix are more highly adapted to local conditions because the markets are considered quite different from one another, thus creating a highly complex environment for setting prices. This also implies that the local managers' knowledge of their markets is superior to the pricing information available to corporate headquarters.

Highly routinized decision making on pricing is associated with local subsidiaries that have no power in their dealings with headquarters. If headquarters is trying to coordinate pricing decisions between subsidiaries that are all relatively strong and command considerable resources, an informal coordination process is more effective.

The following examples from our sample — all companies that dealt with gray markets — demonstrate the successful implementation of price coordination meth-

Figure 2 A Framework for Selecting a Coordination Method

		Environmental Complexity	
		Low	High
Level of Local Resources	Low	Centralization	Formalization
	High	Economic Measures	Informal Coordination

ods that appropriately fit the company's level of environmental complexity and local resources. They show that a company can reduce environmental complexity by using a more complete information base and then adopting the appropriate method for its level of resources.

### Informal Coordination at a High-Tech Equipment Company

Many multinational companies in highly complex environments have historically depended on country subsidiaries with relatively strong local resources. For example, a multinational producer of high-tech hospital equipment sold its products to highly independent country subsidiaries, which, in turn, sold to a national net of specialized dealers. The subsidiaries were run as profit centers. The local subsidiary was obligated to offer technical sales support to the commercial agents through physicians' training programs. Each subsidiary manager employed a technical engineering staff to ensure that the high-tech machines were used correctly. In those European countries where the subsidiaries were burdened with the high cost of the service programs — due to the physicians' relatively low education level — central headquarters charged a lower transfer price. This kept the price competitive and ensured the local subsidiaries' profitability.

The effect of this transfer pricing policy was a number of different prices throughout Europe, which created opportunities for gray market activities. Buying managers in sophisticated hospitals that required relatively little or no service took advantage of the situation by ordering machines in countries where customers normally required a relatively high level of service. The managers in these countries were happy to sell the machines across the border at a low price as long as it was above the relatively low transfer

price. Headquarters could not ignore the resulting complaints from country managers who lost sales in this way to competing subsidiaries in other countries.

Consistent with our framework, the company chose informal coordination methods to solve the problem. Headquarters first organized discussion groups with subsidiary managers to find an agreeable solution. After several meetings, headquarters made the following decisions. First, it defined three lead countries that represented the important markets by sales volume. Second, it trained the country managers and rotated them to better understand the local competition and profit responsibility. Third, it gave the main pricing authority to the local managers in the lead countries who set prices so that gray market activities were not lucrative. Finally, it changed the reward system by basing part of the local managers' yearly bonuses on the whole group's success. Managers who were uncooperative or hindered progress toward more coordination were laid off. After one year, the problems were solved. The whole group displayed a coordinated pricing behavior toward their customers, and the group's profitability increased more than 10 percent.

#### **Economic Measures for an Equipment Producer**

A producer of standardized household equipment sold its products through very strong country subsidiaries to wholesalers, which then sold them to retailers. Thus the level of local resources was considered high, and the environmental complexity, with respect to the pricing, was low. All markets were fairly similar, and the competition was assessed as an oligopoly with four major players.

According to our framework, economic measures would have been the most appropriate method of price coordination. But the pricing behavior this company (and many of its competitors) adopted can be characterized as formalized price coordination, in which prices are set according to the market leader's prices. This pricing policy resulted after the marketing manager learned from the managing director of a big retail chain in Germany that he had been offered the company's products by a foreign wholesaler for less than the price that the manufacturer charged its German wholesalers. He demanded reduced prices for the products delivered through the German wholesalers.

To combat this gray market, the company introduced price range models, that is, it resorted to economic measures. It estimated price response functions for each country and calculated country-specific optimal prices. Then it adjusted the local prices with regard to the arbitrage costs between countries and the profit function for the company. The resulting price range for each country left local subsidiary managers with some pricing authori-

ty yet limited the gray market activities that could result from prices outside the specified ranges.

#### **Different Approaches for Two Competitors**

Two competing European producers of house-building equipment had highly centralized production, so the country subsidiaries for both companies were mainly distribution centers. The level of local resources was relatively low, yet differences in the environmental complexity call for two approaches to the price coordination problem.

The smaller of the two competitors carried a very broad product range to meet the widely differing construction standards in the various markets. Thus environmental complexity was high. In our framework, a formalization approach was appropriate, and, indeed, the company developed some simple pricing rules that tied its own prices to the local competition. The company instructed each country manager to calculate the relative value of its brand's image compared to local products and then price accordingly, above or below the competition. In addition, the company told the country managers to consider the price level in Germany, the company's major market. Prices in the other countries had to be adjusted so that there was no incentive for German customers to buy outside the German market.

The larger competitor faced a different situation, because it had reduced environmental complexity by taking two steps. First, it anticipated Europe-wide construction standards and used its leadership position to simplify its product ranges in all its European markets. Second – and this step was possible only after the first step had been taken – it collected comparable data from all its markets. These two measures made the market considerably more transparent to headquarters and its competitor by reducing environmental complexity. In accordance with our framework, the company took a centralized approach, thereby controlling gray market activities.

#### **Economic Measures for Automakers**

European automobile manufacturers faced a tremendous gray market problem because the prices were relatively high in some countries (e.g., Germany) compared to others. According to our framework, economic measures were the appropriate method for this problem. The local resources level was very high because of the huge number of car dealerships all over Europe. And there were well-defined competitors, customers, and products, so that the environmental complexity was relatively low.

One automaker used rationing to limit gray reimports into Germany. The major source for the reimports was Italy. First, the company bought back a number of reim-

**Table 1 Costs, Risks, and Benefits of Coordination Methods**

	<b>Costs and Risks</b>	<b>Benefits</b>
<b>Economic Measures</b>	<ul style="list-style-type: none"> <li>• Costs of vertical information flows.</li> <li>• Local managers may "cheat," i.e., make decisions not in the corporate interest, if corporate and individual objectives are not completely aligned.</li> </ul>	<ul style="list-style-type: none"> <li>• Country managers collect their own information and make their own pricing decisions.</li> <li>• Alignment of individual and corporate goals results in maximum efforts.</li> </ul>
<b>Formal Coordination: Centralization</b>	<ul style="list-style-type: none"> <li>• Costs of vertical information flows.</li> <li>• Lack of local managers' commitment.</li> <li>• Poor quality information at central headquarters.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete coordination of pricing with global strategy and other elements of marketing mix.</li> <li>• Complete control over gray markets.</li> </ul>
<b>Formal Coordination: Formalization</b>	<ul style="list-style-type: none"> <li>• Costs of training local managers.</li> <li>• Risk of suboptimal pricing decisions in all countries.</li> <li>• Risk of losing innovativeness and creativity when adapting to changing conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Neutralized power relationship between headquarters and subsidiaries.</li> <li>• "Free ride" on competitor's approach to gray markets.</li> </ul>
<b>Informal Coordination</b>	<ul style="list-style-type: none"> <li>• Costs of horizontal information flows and socialization.</li> <li>• Up-front costs for selection of global managers.</li> <li>• Unresolvable conflict between local managers.</li> </ul>	<ul style="list-style-type: none"> <li>• Manager's commitment to implementation.</li> <li>• Application of best local knowledge.</li> </ul>

ported cars and offered them to authorized dealers in Germany as a "special series model" at the price of the gray importers. Next, headquarters limited the number of cars to the Italian dealers. As a result, the dealers were no longer able to build up enough inventory to satisfy both the local and gray market demand. With the exception of a few gray reimports by private owners, the so-called "pipeline control" worked out well.

## Conclusion

There are costs, risks, and benefits associated with each coordination method (see Table 1). A major factor is the cost of information. Centralization and the application of economic measures rely heavily on vertical information flows. Informal coordination mechanisms, on the other hand, emphasize horizontal information flows between countries. Technological progress has tremendously reduced the cost of information transmission, and data can be transmitted around the world at very little cost.

Not all of the necessary information flows, however,

consist of hard data that can be passed along easily and inexpensively. Often, valuable "soft" information that comes from experience is more likely to be passed on through personal contacts, which involve managers' time for meetings, visits, and telephone calls. In informal coordination, the costs of management time can be exorbitant, limiting feasibility. Managers from many multinational companies that coordinate informally complain they spend too much time in meetings, exchanging information or socializing.

If the costs of implementing an informal coordination system are relatively high, company headquarters may want to increase its information collection on local markets, thus making them less complex. This, in turn, could make coordination through economic measures more appropriate.

Similarly, the company may find it advantageous to change the power balance between subsidiaries and headquarters, particularly if coordination between prices in different countries can be achieved at a lower overall cost with a higher degree of centralization or formalization. As

we mentioned earlier, many multinational companies have been moving toward more centralized decision making.

Bartlett and Ghoshal have called a company's current state the company's "administrative heritage," that is, "the company's existing configuration of assets, its traditional distribution of responsibility, and its historical norms, values, and management style."<sup>26</sup> Major dysfunctional, costly effects are often produced by moving from a highly autonomous country management structure toward more centralization. Such effects may discourage a company from choosing a specific coordination mechanism, and they are likely to limit the degree of coordination that could be achieved if organizational heritage were not an issue.

Pricing decisions between countries are only a subset of the many decisions that a multinational company must coordinate. However, the pervasiveness of gray markets and their threat to profitability highlight the significance of pricing decisions, which may drive organizational issues. Ghoshal and Nohria demonstrated that the good fit of an organization's structure and management process with its environment is likely to result in superior financial performance for a multinational company.<sup>27</sup> In this paper, we have examined one specific issue — gray markets. Future research needs to look at other issues, such as global advertising, and relate them to organizational forms. ♦

#### References

1. P.S. Aulakh and M. Kourilsky, "An Assessment of Theoretical and Methodological Development in International Marketing: 1980-1990," *Journal of International Marketing* 1 (1993): 5-28, 10.
2. L.P. Bucklin, "Modeling the International Gray Market for Public Policy Decisions," *International Journal of Research in Marketing* 10 (1993): 387-405, 387.
3. J. Cross, J. Stephens, and R.E. Benjamin, "Gray Markets: A Legal Review and Public Policy Perspective," *Journal of Public Policy and Marketing* 9 (1990): 183-194, 183.
4. J.M. Maskulka and C.S. Gulas, "The Long-Term Dangers of Gray-Market Sales," *Business* 37(1987): 25-31.
5. Cross et al. (1990): 183.
6. "Parallel Market for Cars in the EC" (Brussels: Bureau Européen des Unions des Consommateurs, No. 222/92, 1992).
7. For a discussion of the optimal rate of "leakage," see E. Gentner and D. Hoffmann, "Profitable Pricing When Market Segments Overlap," *Marketing Science* 5 (1986): 55-69.
8. For a more detailed description of the responses by multinational companies to gray markets, see S.T. Carrusell and E. Sikora, "How Multinationals Can Counter Gray Market Imports," *Columbia Journal of World Business* 23 (1988): 75-85.
9. *Wall Street Journal*, 16 July 1992, p. 5.
10. Cross et al. (1990): 188.
11. C.I. Barnard, *The Functions of the Executive* (Cambridge, Massachusetts: Harvard University Press, 1968).
12. E. Kucher, *Pharma-Prismanagement für Innovationen*, in H. Simon, E. Kucher, and K. Hilleke-Daniel, eds., *Wettbewerbsstrategien im Pharmamarkt* (Stuttgart, Germany: Schäffer-Verlag, 1989), pp. 102-123; and
13. H. Simon and E. Kucher, "The European Pricing Time Bomb — And How to Cope with It," *European Management Journal* 10 (1992): 136-145.
14. V. Govindarajan and A.K. Gupta, "Knowledge Flow Patterns, Subsidiary Strategic Roles, and Strategic Control within MNCs," *Best Paper Proceedings* (Miami, Florida: Academy of Management National Meetings, August 1991), pp. 21-25.
15. W. Beuermeyer and H. Mühlbacher, *Standardisierung der Marktingpolitik internationaler Unternehmungen* (Linz, Austria: Universitätsverlag Brauner, 1986).
16. K.G. Shaeffer, "Building Global Teamwork for Growth and Survival" (New York: Conference Board, research bulletin no. 228, 1989).
17. A.J. Morrison, D.A. Ricks, and K. Roth, "Globalization vs. Regionalization: Which Way for the Multinational," *Organizational Dynamics* 19 (1991): 17-29.
18. Ibid.
19. C.A. Bartlett and S. Ghoshal, *Managing Across Borders: The Transnational Solution* (Boston: Harvard Business School Press, 1989); and Y.L. Doz and C.K. Prahalad, "Managing DMNCs: A Search for a New Paradigm," *Strategic Management Journal* 12 (1991): 145-164.
20. A. De Meyer, "Tech Talk: How Managers Are Stimulating Global R&D Communication," *Sloan Management Review*, Spring 1991, pp. 49-58.
21. J.A. Quelch and E.J. Hoff, "Customizing Global Marketing," *Harvard Business Review*, May-June 1986, pp. 59-68.
22. H. Raffee and R.T. Kreutzer, "Organizational Dimensions of Global Marketing," *European Journal of Marketing* 23 (1989): 43-57.
23. J. Bolz, *Wettbewerbsorientierte Standardisierung der internationalen Marktbearbeitung* (Darmstadt, Germany: Wissenschaftliche Buchgesellschaft, 1992), p. 156.
24. T.A. Poynter and R.E. White, "Making the Horizontal Organization Work," *Business Quarterly*, Winter 1990, p. 73-77.
25. C.A. Bartlett and S. Ghoshal, "Organizing for Worldwide Effectiveness: The Transnational Solution," *California Management Review*, Fall 1988, pp. 54-74.
26. S. Ghoshal and N. Nohria, "International Differentiation within Multinational Corporations," *Strategic Management Journal* 10 (1989): 323-337; and K. Eisenhardt, "Control: Organizational and Economic Approaches," *Management Science* 31 (1985): 134-149.
27. Bartlett and Ghoshal (1988): 56.
28. S. Ghoshal and N. Nohria, "Horses for Courses: Organizational Forms for Multinational Corporations," *Sloan Management Review*, Winter 1993, pp. 23-35.

Reprint 3633